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KLAUS TÖPFER
United Nations Under-Secretary General and Executive Director, UNEP

Over the last decade, the Global Environment Facility (GEF) has emerged as a major actor addressing the global environmental challenges of sustainable development. Since its establishment in 1991, it has allocated some $4 billion – supplemented by $12.4 billion in co-financing – for more than 1,000 projects in 160 countries.

The recent independent evaluation of its performance provided ample evidence that this unique and innovative financial mechanism is working well – and that, as a result, its operations are achieving discernible impacts in the field.

Confidence

The recent decision on the replenishment of the Facility for its third phase is a clear message of confidence, from both donors and beneficiaries, that it is fulfilling the objectives for which it was established. The decision reaffirms the confidence earlier demonstrated by the international community, in asking it to manage three new climate change funds established in Marrakech; to act as the financial mechanism of new legal instruments such as the Cartagena Protocol on Biosafety and the Stockholm Convention on Persistent Organic Pollutants; and to include land degradation as a separate and distinct focal area of its interventions.

This renewed confidence is a timely recognition of the GEF's significant achievements – and a challenge to do more, and to do it better in response to the evolving needs and increased expectations of recipient countries, and particularly the poorest of the poor.

The Second GEF Assembly thus offers a unique opportunity, not just to assess what has been achieved – but even more importantly – to shape the policy directions that will allow the Facility to continue playing a catalytic role in mobilizing financial resources to address global environmental threats.

Celebration

For UNEP, the convening of the Assembly in Beijing is of great significance. The meeting is being held just a few months after the celebration of World Environment Day in China coinciding with the 30th anniversary of the creation of UNEP. Through this celebration, the international community recognized the people and the Government of China's unique contribution in promoting the environmental dimension of sustainable development. This recognition has also led to the establishment of a UNEP-Tongji Institute for Environment and Sustainable Development in May this year, with a view to enhancing research, technical and managerial capacities in China and other countries of the region.

This unique and innovative financial mechanism is working well

Initiatives

As an implementing agency of the GEF, UNEP is at work in China through 14 diverse and innovative initiatives. These include the finalization of the Action Plan on biodiversity and the reports to the Conference of the Parties to the Convention on Biological Diversity. They also include a demonstration project to support the implementation of the national biosafety framework of China: this was developed through another Biosafety Pilot project which pioneered GEF's global programme in biosafety which is at work, through UNEP, in more than 100 countries globally.

UNEP is also implementing a $32 million project for protecting the South China Sea. By developing a regional Strategic Action Programme and through remedial actions and demonstration activities, it will support the countries of the region to address the environmental challenges facing the sea and Gulf of Thailand. China is also a partner in the UNEP/GEF global assessments of land degradation and solar and wind energy resources, and an important stakeholder in the global assessments of international waters, mountain ecosystems and the Millennium Ecosystem Assessment.

In a major development, the Second GEF Assembly is ▸

Dinh Tram/UNEP/Topham

expected to amend the instrument that governs the Facility's operation, to designate land degradation and persistent organic pollutants (POPs) as two new and separate focal areas. UNEP as an implementing agency is fully prepared to meet the challenges arising from the expansion of GEF's original mandate. Indeed, it is already implementing 19 projects that focus directly on POPs or other persistent toxic substances – involving the participation of 42 countries and financing of $47 million, including $28 million of GEF resources. Less than 15 months after the signature of the Stockholm Convention, UNEP – through approved GEF resources – is assisting 23 countries in developing their national implementation plans to phase out the POPs covered by the Convention, and is assisting many other countries to prepare proposals for GEF funding.

To maximize interagency collaboration, UNEP entered recently into a partnership arrangement with the World Bank for supporting the implementation of the Stockholm Convention.

UNEP is also implementing 17 activities aimed at combating desertification, together worth $90 million, including $32 million approved GEF resources. They focus predominantly on the degradation of transboundary dryland ecosystems spanning 26 countries, mainly in Africa.

Challenges

UNEP has always given high priority, in implementing its work programme, to responding to the environmental challenges facing Africa. Combating desertification is one of the major environmental, economic and social challenges facing the continent as evidenced by the Framework of the Action Plan on the Environmental Component of the New Partnership for African Development adopted by the African Ministerial Conference on Environment at its meeting held in Kampala in July 2002 with the support of UNEP through GEF resources.

UNEP is proud of its role and responsibility as an implementing agency of the GEF. Less than six years after its GEF Division was established, it is implementing a GEF work programme of $500 million, including more than $270 million in GEF resources, comprising 278 projects in more than 140 countries.

Strengthened further by the enhanced mandate on capacity-building at national, regional and international levels, entrusted to it by the last meeting of the Global Ministerial Environment Forum held in Cartagena in February 2002, UNEP is fully committed to continuing to enhance its role as an implementing agency to assist the GEF family to meet the challenges of the third, exciting phase of its existence ■

UNMATCHED **OPPORTUNITIES**

MOHAMED T. EL-ASHRY describes how the Global Environment Facility is linking the global environment to sustainable livelihoods

In early August, 32 donor nations reached an agreement on the largest replenishment in the ten-year history of the Global Environment Facility (GEF) – $2.92 billion for the next four years. This robust replenishment sent the world a strong message of commitment to the global environment and to the GEF.

Despite advances in many areas, including reductions in the production and consumption of ozone-depleting substances (ODS), world leaders have no shortage of environmental concerns to address. One person in three still lacks adequate freshwater. Greenhouse gases are steadily increasing, and we continue to undermine ecosystems that are critical to human survival. Land degradation threatens food security and livelihoods, especially in Africa. The number of people living on less than $1 a day is increasing by 10 million every year. And official development assistance, as a percentage of donor country GDP, is at 0.22 per cent, its lowest point in half a century. Reversing these trends is not only our moral duty, it is also in our best economic and security interests. Fortunately, we already know what we need to do to create a global shift towards sustainable development.

Cooperation

It is clear to me that addressing these conditions entails creating jobs in poor countries through economic and social growth, and generating global action to produce commonly shared benefits through multi-country cooperation.

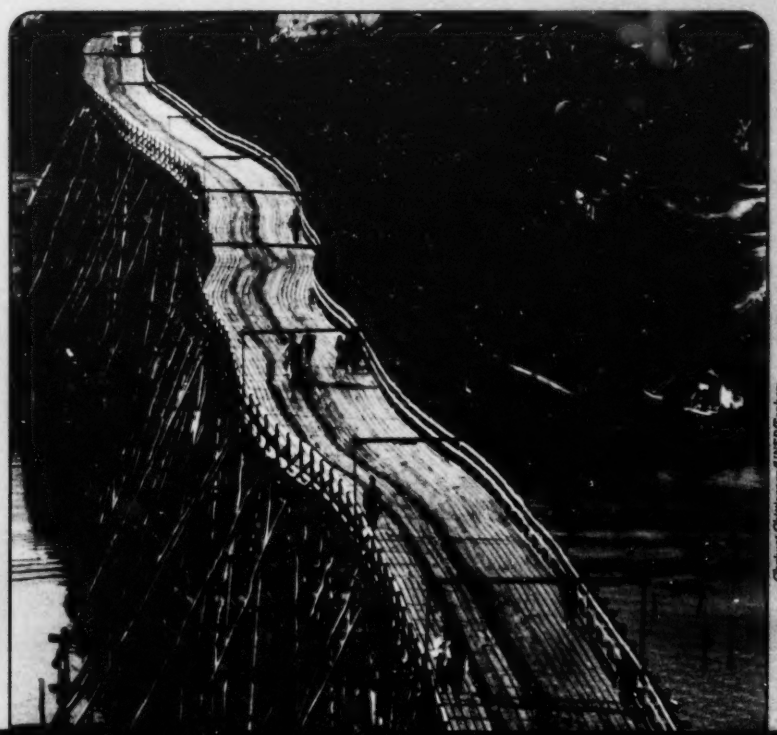
Combining conservation with local needs can have benefits that go beyond national boundaries

Since 60 per cent of the population in developing countries engage in livelihoods that are dependent on land and water resources, combining conservation with local needs can have benefits that go beyond national boundaries.

That is why the GEF exists – to improve the global environment while creating sustainable development opportunities for local communities. Chapter 33 of Agenda 21 states that new and additional external funds are necessary to share the costs and benefits of sustainability with developing countries. The GEF was entrusted with channelling a significant portion of these 'new and additional' funds to achieve global environmental benefits and 'cover the agreed incremental costs of relevant activities under Agenda 21'. Ten years later, the GEF is considered by many to be the only major financial accomplishment of Rio.

The GEF is a novel, multilateral entity that engages in an array of partnerships, building upon other organizations' comparative strengths. One partnership is between developed and developing countries working to achieve global environmental benefits. GEF has also forged partnerships with three implementing agencies – the United Nations Development Programme, UNEP and the World Bank – and this level of partnership is growing to include other organizations. GEF also works with private and public partners who leverage the GEF's impact by providing co-financing – $12.4 billion since 1991. Finally, non-governmental organizations (NGOs) have had an unprecedented role in the GEF; currently more than 700 NGOs participate in GEF activities as co-executing agents or service contractors – more than three quarters of them in developing countries.

Broad representation in the GEF's governing structures reinforces a strong emphasis on participation. Representatives from GEF's 173 member states provide overall direction to the GEF through the GEF Assembly. The GEF Council develops, adopts and evaluates GEF programmes; of its 32 member constituencies, 16 represent developing countries, 14 represent ▶



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developed countries and two represent countries with transitional economies. Unique among international financial organizations, the GEF welcomes the participation of non-governmental organizations in its deliberations.

The GEF is more than a channel for project financing. It also supports global environmental security by helping countries integrate global environmental considerations in national development planning, encouraging the transfer of environmentally sound technology and knowledge, and strengthening the capacity of developing countries to play their full part in protecting the global environment.

GEF's commitment

Though the GEF portfolio is still young, the growing number of completed projects and the many ongoing projects report measurable achievements. A recent comprehensive assessment by an independent panel of experts concludes that 'GEF projects have been able to produce significant results that address important global environmental problems'.

As the financial mechanism for the global conventions on climate change and biodiversity, GEF helps breathe life into these commitments by earmarking multilateral funds for developing country-based projects with global environmental benefits. In its roughly ten years of operation, the GEF has approved over $1.2 billion in grants, and leveraged $6 billion in co-financing, for more than 100 clean energy projects in 60 developing and transition countries. This 5-1 return on investment is a win-win situation for all partners. These funds have been used to promote energy efficiency and the use of renewable energy technologies. In addition, GEF's work has stimulated awareness and understanding of climate change in many countries.

Under the GEF ozone programme, which supported implementation of the Montreal Protocol in economies in transition in Eastern Europe and Central Asia, significant reductions of ODS have been achieved. In the 14 countries with the most advanced GEF projects, ODS consumption has been reduced by 90 per cent.

GEF is the single largest source of funding for global biodiversity conservation. Its biodiversity programme has made significant advances in demonstrating community-based conservation within protected areas. Now the focus is shifting towards production landscapes in which sustainable income-earning activities are allowed. GEF support has steadily improved the management standards for protected areas through participatory approaches.

GEF-supported activities in the international waters focal area have contributed significantly to the implementation of existing global and regional agreements that address protection and restoration of freshwater and marine ecosystems.

Significant as the GEF may be, however, it is not enough by itself in meeting the many demands for environmental sustainability in developing countries. The reality is that the resources available for environmental protection and sustainable development in developing countries are small compared to the needs.

Learning

What will it take to protect our biological heritage, avoid the devastation that climate change could bring, sustain the soil and water that give us life, protect human health and reduce the scourge of poverty and hunger? It will take leaders from all walks of life who are willing to think and act differently and lead the way. We must replicate our successes, and build upon what we have learned:

■ We must share the benefits of new knowledge and opportunities by utilizing environmentally friendly technologies and approaches.

■ We must move beyond traditional finance formulas to cultivate new financial resources – ones that will allow greater cooperation and investment in global sustainability.

■ We must make polluters pay, but we can go further by building sustainable livelihoods and facilitating joint ventures.

■ We must move beyond corporate greed and 'irresponsibility' and use pressure from governments, investors and consumers to advance corporate citizenship, self-regulation and the business case for sustainability.

■ We must continue to maximize the market impact of public resources, as several GEF projects have demonstrated. Public funds should help create the enabling environment for private investments.

As we have also learned in the GEF, the challenges ahead of us cannot be categorized under headings as simple as 'environment' or 'poverty' or 'health'. Doing so ignores how each affects the other, and hinders our abilities to find comprehensive and effective long-term solutions. In my view, international cooperation towards sustainable development demands an understanding of the linkages between the health of the environment, the health of people, hunger and poverty alleviation.

In many ways, we have entered one of the most creative phases in human history, where science, technology and communications advance at breathtaking speed and offer unmatched opportunities for political consensus and responsible change. We have new tools at our disposal, and a vastly increased understanding that our strength lies in working together to overcome the threats facing our planet. The actions we take and the investments we make in the coming decade will determine both our own evolution and that of future generations. And we have the time and the tools to make the global shift to sustainable development ■

Mohamed T. El-Ashry is Chairman and CEO of the Global Environment Facility.

We have a vastly increased understanding that our strength lies in working together

A.S. Bennett/UNEP/Topham

Global priority

JAMES D. WOLFENSOHN explains that achieving environmental sustainability is essential if poverty is to be reduced

The Millennium Development Goals (MDGs) grew out of the agreements and resolutions of conferences organized by the United Nations in the past decade. They have now been commonly accepted as a framework for measuring development progress, and the World Bank Group is committed to working with our country partners to achieve these goals.

The MDGs can only be attained if countries choose an environmentally and socially sustainable development path. This requires managing the physical, human, natural and social capital that underpin development in ways that meet the needs of the present generation without foreclosing options for the future. This task is particularly challenging in the case of natural capital where the goods and services provided by ecological systems to sustain human development continue to be overexploited, degraded and – in cases such as biodiversity – irreversibly lost, on a scale that causes worldwide concern.

There is broad agreement that reversing environmental degradation is critical to poverty reduction, since poor countries – and particularly poor people – are most vulnerable to environmental degradation and lack the financial, technical and institutional means to address these problems. The priorities for action include:

- Improve access by poor people to safe water and sanitation and reduce indoor and outdoor air pollution to lessen the burden of disease.
- Arrest the degradation of soil and water resources to help improve agricultural productivity.
- Conserve terrestrial and aquatic ecosystems, to preserve critical ecological goods and services.
- Improve social and economic conditions to help reduce the effects of environmental disasters.

Sound policies

Addressing these priorities – and building environmental sustainability at the country level – starts with sound national policies and programmes for economic growth that improve people's lives and the local environment. However, unless such national policies and programmes take into account adverse regional spill-over effects, they will potentially seriously threaten the health of transboundary ecosystems that provide vital environmental services to hundreds of millions of poor people. Moreover, unless we collectively act to preserve the global environmental commons – the climate, the ozone layer, the diversity of life and the oceans – we will undermine the sustainability of national and regional development. The evidence is unequivocal: regional and global environmental commons are, with few exceptions, deteriorating.

Unless we collectively act to preserve the global environmental commons we will undermine the sustainability of national and regional development

Environmental services constitute regional and global commons. They can be protected only through cooperation and collective action by developed and developing countries.

Helping our country partners address these challenges is the focus of the Bank's new environment strategy, Making Sustainable Commitments. On many global environmental issues, Bank action is linked to the objectives of international agreements. The Bank Group works with country partners to overcome the factors that restrict their ability to act on global environmental priorities, particularly individual countries' limited economic incentives for taking action on the global environment, and the frequently weak national policy and institutional frameworks that limit the incentives and scope for effective action.

These limited economic incentives follow inherently from the regional or global public goods character of environmental services. As a consequence, decisions taken at the country level on the use of natural resources for national economic development do not adequately reflect their global impacts – or as the economists would say, the regional and global externalities are not internalized at the national level. Absent markets for trading certain global environmental goods and services, global non-market values are today ▶

UNEP/Topham

captured primarily through international resource transfers. The Global Environment Facility (GEF) and the Multilateral Fund for the Implementation of the Montreal Protocol (MLF) were established to help underwrite and leverage such transfers.

Resource transfers from these mechanisms have served to raise the returns to host countries on environmentally friendly investments with global benefits, including energy services, rural development, management of terrestrial and aquatic ecosystems, and finding alternative technologies to replace chlorofluorocarbons and other ozone-threatening substances. Such investments can have a double benefit, contributing to long-term environmental sustainability – through, for example, reduced emissions of carbon dioxide – while also producing immediate local environmental benefits such as improved air quality.

Partnerships

Together with the United Nations Development Programme and UNEP, the World Bank Group has served as an implementing agency for the GEF and the MLF. We remain firmly committed to deliver on our mandates under these funding mechanisms, and strongly support expanded funding for the GEF to meet its broadening responsibilities. We see our role and impact going further: through these partnerships, we can help mobilize public funds for global environmental management, accelerate the transfer of environmentally friendly technologies to our developing country partners, and play a role – particularly through the Bank Group's International Finance Corporation – in promoting the global environment as a business opportunity.

The Bank Group's partnership with the GEF and the MLF has prompted a growing realization within our institution that global environmental needs have to be addressed as an extension of the local, national and regional environmental issues that underpin sustainable development. Through these alliances, we have embraced new financial mechanisms using limited grant resources, secured effective stakeholder involvement, and fostered partnerships of strategic importance for global environmental management.

Market mechanisms

A key challenge in our joint effort to promote public goods for the global environment is to help devise broader market-oriented mechanisms for dealing with long-term externalities, such as carbon emissions, where there is great scope for win-win solutions benefiting industrial and developing countries alike.

The development and management of the Prototype Carbon Fund (PCF) is a first step by the Bank Group in this direction. Participants in the $180 million PCF include 17 major corporations as well as six governments. The PCF seeks to demonstrate the feasibility of creating environmentally credible greenhouse gas emission reductions under the regulatory framework of the Kyoto Protocol's Clean Development Mechanism (CDM) and the development of a global market in which these would be traded. It has already negotiated emission reductions purchase agreements in more than a dozen projects and countries.

We are currently designing and marketing two new specialized funds: the Community Development Carbon Fund (CDCF) and the BioCarbon Fund (BioCF). The CDCF is designed to channel private capital under the CDM to small projects to the smallest and poorest countries. The BioCF is to develop prototypes for the production of environmentally and socially credible carbon assets through creation of carbon sinks in sustainable forestry, agriculture and management, and expanded biodiversity conservation efforts, consistent with the objectives of the Conventions on Biodiversity and Desertification. The Bank's efforts to create and sell certified improvements in biodiversity bundled with its carbon assets in its PCF business, and under the BioCF, signal the opportunity to create an independent market for biodiversity.

The Bank is committed, working in partnership with others, to support the priorities identified in the Plan of Action of the World Summit on Sustainable Development ■

James D. Wolfensohn is President of The World Bank.

Natasha Jupp/UNEP/Topham

Partnerships **for change**

MARK MALLOCH BROWN gives practical examples of effective and innovative projects to save the global environment

Since its formation at the Earth Summit in Rio ten years ago, the Global Environment Facility (GEF) has become the world's largest multilateral sponsor of projects to save the global environment. In its role as an implementing agency, the United Nations Development Programme (UNDP) responded early on by assembling a team of top technical experts, engaging professionals in our 133 Country Offices and offering to manage the GEF Small Grants Programme. Now, 220 large and medium-sized GEF-UNDP projects are bringing together partnerships that double the amount of GEF resources being applied to state-of-the-art initiatives in every region of the world.

In our approach at UNDP, we understand that local poor people typically suffer the most from ecosystem decline since they are the most directly dependent upon ecosystems for their immediate survival. Making local people and organizations part of the project design and implementation process is a unifying theme of all UNDP's GEF initiatives. A quick look at just a few of these projects gives a glimpse of their variety, their effectiveness and their innovation in addressing international waters, climate change, biodiversity and, often at the same time, land degradation.

Ecosystem restoration

Let us start with the Danube River/Black Sea basin, which has been overwhelmed by excess levels of nutrients from agricultural run-off, and industrial and municipal wastewater discharges. Outbreaks of waterborne diseases such as cholera, beach closures due to poor coastal water quality, and a decline in the number of fish species from 26 to 6, costs billions of dollars in lost income every year. Now, thanks to a major GEF-UNDP international waters project, the Governments of Bulgaria, Georgia, Romania, Russia, Turkey, Ukraine and their ten upstream neighbours in the basin have joined forces to restore the Black Sea ecosystem. These countries have developed and ratified international conventions including the Black Sea Convention and the Danube River Protection Convention. The Black Sea Strategic Action Programme flows from them and contains 59 specific commitments to reduce pollution, improve living resources management, encourage sustainable development and improve financing for environmental projects. In adopting this plan, the Black Sea governments have committed themselves to a process of profound reform in the manner in which environmental issues are addressed throughout the basin.

Local poor people typically suffer the most from ecosystem decline since they are the most directly dependent on ecosystems

K. Sengamalthana/UNEP/Topham

Shifting gears to climate change, diesel buses provide the most important mode of motorized transport in the mega-cities of developing countries, but they are also serious contributors to local air pollution and the accumulation of carbon dioxide in the atmosphere. Now, a major GEF-UNDP climate change project is in the process of putting fuel-cell buses that run on hydrogen and emit only distilled water into regular revenue service in six cities around the world. In China, UNDP implemented a very successful climate change project that introduced technologies that turn the enormous amounts of methane – a potent greenhouse gas released during coal mining – into a new, clean-burning energy source. The GEF project triggered private-sector investments of over $300 million, and improved both the local air quality and the safety of coal miners.

Land and biodiversity

Another innovative project shows how mitigating climate change can also reduce land degradation and improve biodiversity values. In the Sudan, rangelands cover 60 per cent of the land and support one of the largest concentrations of livestock in Africa – upon which half of the nomadic ▸

Elena Neumann/UNDP Pegham

population depends for their survival. These rangelands and their biodiversity have been degraded by cyclical droughts, arid cultivation and the depletion of forest cover for fuelwood. UNDP's GEF climate change project in the Sudan is empowering local people with the resources necessary to rehabilitate their rangelands. This will sequester carbon and improve conditions for local livestock, particularly those raised by women and the poor. The project invests in the capabilities of the communities themselves – management of resources and monitoring was left to the people – while private assets are being engaged through the development of individual grazing allotments. The project's local context has encouraged the reproduction of activities among neighbouring communities.

Although it forms the foundation of food security, biodiversity is under siege in many if not most developing countries of the world. Along Argentina's Patagonian coast, UNDP implemented a GEF biodiversity project for developing a comprehensive coastal zone management plan in partnership with a local non-governmental organization. While the most immediate beneficiaries are the local people who depend on the coastal resources for their livelihoods, the Patagonian ecosystem extends far out into international waters, and the project also helps preserve the health of natural resources far beyond Argentina's shores. GEF-UNDP also has a very interesting biodiversity project in the area where some of the highest mountain ranges in the world – the Karakoram, Hindu Kush and Western Himalayas – meet in northern Pakistan at elevations above 8,000 metres. To reverse the degradation of high pastures and forest stands, the project is focusing on ecological landscape management at large spatial scales that protects a representative sample of biomes through the creation of four Conservancies spanning an area of some 16,300 square kilometres. Local communities are planning and implementing conservation activities: profits from sustainable use options, such as ecotourism, trophy hunting, small game-bird harvest, and non-timber forest products, are being invested and interest income re-distributed for community services.

I am also very proud of the GEF Small Grants Programme (SGP), which is implemented by UNDP and provides grants of up to $50,000 directly to non-governmental and community-based organizations. To date, the SGP has funded over 3,400 projects in 63 countries to conserve and restore the natural world while enhancing local well-being and livelihoods. UNDP is committed to raising matching funds that cover the Programme's baseline costs, which are estimated at about 50 per cent of the total costs of programme activities. In the process, the SGP has brought over 600 partner organizations worldwide to the table, including significant contributions by the United Nations Foundation, the European Commission, and the Governments of Denmark and The Netherlands.

Country dialogue

UNDP also implements the GEF Country Dialogue Workshop Programme, a strategically important joint initiative of the GEF Secretariat, UNDP, UNEP and the World Bank. Thirty-five workshops have been conducted worldwide, with UNDP working closely with governments to involve a diversity of stakeholders reflecting all sectors in government and civil society.

As the financial mechanism of the United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity, the GEF has shown that developing countries can not only abide by these Conventions but, in some cases, can lead the way toward a sustainable future. To help developing countries meet their obligations under these Conventions, UNDP implements over 100 GEF 'Enabling Activity' projects, and GEF-UNDP manages a unit dedicated to supporting national efforts to respond to the UNFCCC. The GEF now stands ready to support other international environmental conventions, including the Convention on Persistent Organic Pollutants and the Convention to Combat Desertification. These Conventions frame the scene for international cooperation, and UNDP in partnership with the GEF brings the resources, know-how and local participation that are vital to protecting the atmosphere, water and agro-ecosystems that support all the citizens of developed and developing countries alike ■

Mark Malloch Brown is the Administrator, United Nations Development Programme.

Lim Eng Geow/UNEP/Still Pictures

Rising to **new challenges**

XIE ZHENHUA sets out his hopes for the GEF Assembly, and calls for concrete action

This golden October, representatives from 173 countries, from international organizations and from non-governmental organizations, will gather in Beijing. They will participate in the Second Assembly of the Global Environment Facility (GEF), to review its basic policies, assess its operational strategies and reflect upon its experiences and lessons. The meeting is both a great event for GEF and a great concern for the international community.

The 1992 Earth Summit shaped the GEF into a financing mechanism for global environmental cooperation. For years, it has effectively contributed to the developing countries' drive to improve the global environment. At the same time, it has witnessed some progress in strengthening its management, improving working efficiency and simplifying its reviewing and approving procedures. At present, it is still difficult to quantify the GEF's positive impact on the global environment, but there is little doubt that the GEF has been playing an ever more important role in tackling global environmental issues.

Negative trends

Humanity has entered a new century, but the global environmental problems have not abated with increasing material affluence. Poverty and hunger still threaten a quarter of the people of developing countries. The desert is still rampant, forest continues to disappear, freshwater is still scarce and greenhouse gas emissions increase. The unsustainable production and consumption patterns of developed countries have not changed. The deteriorating trend of the global environment demands that the global community demonstrate a stronger political commitment and takes more action so as to make greater strides along the road towards sustainable development.

Addressing these global environmental issues will require a joint effort by all the countries of the world. Nevertheless, developed ▸

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Sigfred Jr. Bolatan/UNEP/Still Pictures

countries are obliged to assume unshirkable major responsibilities, based on the principle of common but differentiated responsibilities. On the basis of this principle, they should take on greater responsibilities for improving the global environment and thus provide 'new and additional financial resources' and transfer environmentally friendly technologies on preferential terms, so as to help developing countries enhance their capacity-building and improve their capabilities to address environmental issues and participate in the global environmental protection programme.

China wields great impact in the environmental arena and it makes a positive contribution to the global environment by addressing its own environmental problems well. After the United Nations Conference on Environment and Development in Rio in 1992, the Government of China identified sustainable development as a most important strategy. It has made huge and effective efforts for improving environmental quality. During a decade of unremitting effort, the sustainable development strategy has been integrated into all fields of social and economic work, assuring and promoting the sustained coordinated development of economy, society, population and environment.

China's national economy increased by 8.3 per cent a year over the Ninth Five-year Planning Period between 1996 and 2000. Yet over the same period the amount of major pollutants discharged decreased by 10-15 per cent. China has also embarked upon a large-scale initiative covering regional and river basin pollution prevention and treatment and ecological conservation even though its per capita GDP is less than $800. As a result of these policies and measures, the country's formerly deteriorating trend of environmental pollution has basically been arrested, environmental quality has been improved in some cities and areas, and ecological conservation has been strengthened.

Developed countries are obliged to assume unshirkable major responsibilities

Proactive stance

Throughout, China has been very proactive in tackling international environmental issues. It has signed an array of important international environmental instruments and registered widely hailed achievements in stringently fulfilling its own international obligations and responsibilities. In the new century, we will, as always, make further efforts in international environmental cooperation and make our due contribution to achieving sustainable development and protecting the global environment.

The GEF assumes a vital responsibility and obligation in fulfilling its mission to tackle global environmental issues. Its Second Assembly will provide a new motivating force for developing its undertakings, and inject fresh vitality into it. I want to appeal to the international community to refrain from empty talks and to translate all our commitments into concrete actions – thus extending substantial support and assistance to GEF in terms of its replenishment – so as to prevent our common homeland, the Earth's ecological system, from being damaged further. I am looking forward to this Assembly being an unprecedentedly grand and successful meeting which will implement the outcomes hammered out by the World Summit on Sustainable Development.

As the capital city of a country with 5,000 years of splendid civilization history, time-honoured Beijing is particularly dynamic and attractive. Autumn is a time for harvesting and the best season for the city. As Minister for the Environment and a Beijing citizen, I warmly welcome delegates to Beijing to make this meeting fruitful by sharing your experience and wisdom with us for a better GEF ■

Xie Zhenhua is Minister, State Environmental Protection Administration, China.

Ozer Kambarov/da/UNEP/Topham

Much achieved, **more to do**

CLAIRE SHORT assesses the GEF's achievements and suggests priorities for its second decade

The GEF is a unique partnership, bringing together the World Bank, the United Nations Development Programme and UNEP. It is a blend of the best of the Bretton Woods institutions and the United Nations system. From the start, non-governmental organizations (NGOs) have had an active role in shaping the GEF and working with it in a variety of ways, making it probably the most open and transparent public organization. The GEF has also shown its ability to be flexible by bringing new agencies into the partnership, such as the regional development banks and the Food and Agriculture Organization. Its governance structure of 32 constituencies on the Council, with an equal share for developed and developing countries, enables decisions to be made with a minimum of fuss and without any long speeches. Its worth has been recognized by the international community through three successful replenishments, and by an ▶

expansion of its traditional activities so that it now deals also with the problems of persistent organic pollutants and the global impacts of land degradation.

Important story

So what has the GEF achieved on the ground? The financial statistics tell an important story. Since its formation in 1991 the GEF has committed (as at end June 2002) some $4 billion, and disbursed about $1.4 billion. Most funding has gone to combating climate change and protecting biodiversity, with commitments of $1.4 and $1.5 billion respectively. In terms of regional commitments, $770 million (20 per cent) has gone to Africa, $1.1 billion (28 per cent) to Asia and $900 million (23 per cent) to Latin America. But these direct commitments are only a small part of the story. Independent evidence suggests that for every dollar the GEF invests, it levers in three times as much from other sources. The latest estimate is $12.4 billion extra in co-financing. Although this last figure is impressive, more still needs to be done in this area, particularly in deepening cooperation with the private sector.

As important as the financial figures are, they are less important than the realization of the institution in its early stages that environmental problems and issues could not be dealt with in isolation. The underlying causes of environmental degradation often relate to inappropriate economic and social policies, an inadequate legal framework, institutional weakness and poor public awareness. Therefore the GEF has moved away from financing isolated projects, and has begun constructive policy dialogue with a number of its major partners, so that lending is given in stages, dependent on agreed performance criteria being met. Over time, this will improve the sustainability of the GEF's operations and its environmental impact.

Some of the most innovative approaches of the GEF have been in promoting renewable energy and energy efficiency by increasing demand so it becomes more attractive for the private sector to develop and sell such technologies. Examples are in the development of off-grid solar photovoltaic systems for rural

Silvana Tarelho/UNEP/Topham

Some of the most innovative approaches have been in promoting renewable energy

electrification in Kenya, Sri Lanka, Viet Nam and Peru; biogas power from sewage treatment plants or landfills in India and Jordan; wind power in India; and bagasse-based power in Mauritius. Most notably, commercialization in Brazil of an efficient new biomass power technology from both sugar cane and woodchips from plantations of rapidly growing trees inspired the development of a similar plant in Yorkshire in the United Kingdom. The ultimate aim of all these new technologies is of course to reduce greenhouse gas emissions, thereby slowing the pace of climate change.

Intense activity

Biodiversity conservation has been an area of intense activity for the GEF, but one where results have been slower to become evident. This is partly because of the inherent complexity of the problem. However, the GEF has been instrumental in moving away from purely conservation activities to an approach that emphasizes the sustainable use of biodiversity. This is consistent with my own view that for environment to be effectively integrated with development, we must look at how the environment can be used sustainably for the benefit of poor people. This was the essence of the new operational programme dealing with integrated ecosystem management.

As noted above, the GEF has always encouraged broad participation in its projects. An effective instrument in this regard has been the Small Grants Programme, where small, strategically targeted projects can contribute to solving global environmental problems while enhancing the security of livelihoods of poor people. The programme has received strong support from relevant government agencies, academic institutions, NGOs, local governments and community groups. Since one of the keys to more effective environmental performance is the level of public awareness in the community, the programme provides valuable examples of what can be achieved, and improves the chances of such activities being sustainable.

What are the priorities the GEF should address as it moves towards its second decade? I suggest there are three:

- More emphasis on the policies that can influence the integration of global environmental issues into normal government programmes, backed up by lending and the building up of appropriate domestic institutional capacity.
- Strengthening its catalytic role, through mainstreaming, co-financing and, particularly, the replication of successful activities on a much larger scale.
- Much increased cooperation with the private sector to pioneer commercial approaches to delivering environmental benefits through developing and expanding effective market demand in developing countries.

The United Kingdom has always been a strong supporter of the GEF. Since its inception we have provided £215 million ($330 million). During the third replenishment we will provide a further £118 million ($180 million), including a voluntary contribution of £15 million ($23 million), which is additional to that which we should provide under normal international burden-sharing arrangements. We will continue to work with the Secretariat and fellow Council members to encourage the priorities I have set out ■

Claire Short is the UK Secretary of State for International Development.

The Secretary-General

MESSAGE TO THE SECOND GLOBAL ENVIRONMENT FACILITY ASSEMBLY

Beijing, 16-18 October 2002

The Global Environment Facility (GEF), a strategic alliance of the United Nations Environment Programme, the United Nations Development Programme and the World Bank, is an innovative source of funding designed to address such urgent problems as climate change, loss of biodiversity and degradation of water, land and the atmosphere. Its recent replenishment by $2.92 billion in donor contributions for another four-year period demonstrates the importance that its stakeholders – developing and developed countries alike – attach to it, and will allow the GEF to continue its invaluable work of supporting the major environmental conventions and making the connection between local and global environmental challenges.

This second GEF Assembly offers a timely opportunity to steer this mechanism so that it builds on both the World Summit on Sustainable Development and the Monterrey Consensus adopted at the International Conference on Financing for Development. I urge all involved to continue supporting the GEF and, most of all, to take the decisive steps that are needed right away if the world is to achieve sustainable development.

Kofi A. Annan

Secretary-General of the United Nations

Helena Holdrup/UNEP/Topham

Africa Environment Outlook

Natural resources form the backbone of Africa's economy, and provide the life-support system for most of its people. As most people directly depend on them for their livelihoods, they are particularly vulnerable to the effects of environmental change. Over the past three decades, the region's environment has continued to deteriorate and poverty has deepened despite attempts by governments to try to halt and reverse degradation. In the past Africa's people had well-developed strategies for coping with change, but poverty has both reduced their ability to cope, and increased their vulnerability.

Increased vulnerability to environmental change, in turn, causes greater pressure to be put on the environment. A vicious cycle ensues. Crop failures as a result of recurrent drought and high debt service payments intensify it. The African Ministerial Conference on the Environment requested UNEP to coordinate the production of the region's first major report on the African environment. *Africa Environment Outlook* assessed the state of the environment of the region and outlined four scenarios for the future:

- **The Market Forces scenario, where market forces determine economic and social relations and Africa's future is shaped by the patterns of globalization.**

Lim Sip Li/UNEP/Topham

Biodiversity

Six of the world's 25 international biodiversity hotspots are in Africa. Four out of every five flowering plants in Madagascar are endemic; the island ranks sixth for endemism among all the countries of the world. Over the last 30 years the protection of biodiversity has strengthened and recently there has been a shift of emphasis towards sustainable use and the sharing of its benefits. Yet it is continuing to decline.

Desertification

Desertification afflicts 46 per cent of Africa, affecting some 485 million of its people. More than 2 million hectares of the Ethiopian highlands have been degraded beyond rehabilitation. Much of the continent is particularly vulnerable: three quarters of Kenya, for example, is arid or semi-arid, and 93 per cent of Mauritania is hyper-arid. Soil erosion and desertification are increasing and the problem is likely to intensify over the next three decades as populations continue to grow and the climate becomes more variable.

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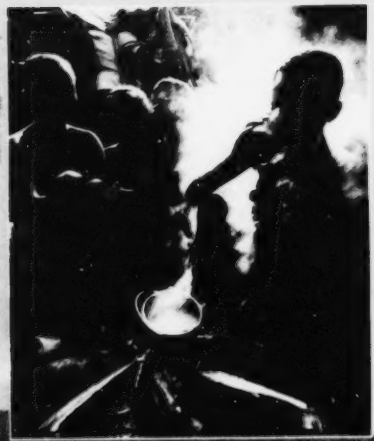


Kevin Flagg/UNEP/Topham

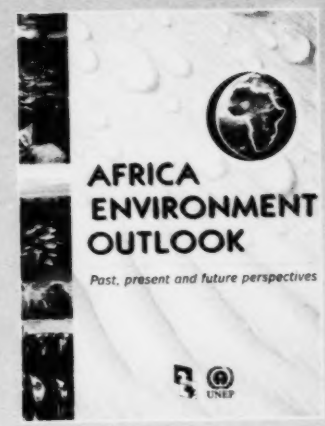
Freshwater

Shortage of freshwater and its poor quality are the two greatest limits to development in Africa. They constrain farming and industry and give rise to a huge burden of waterborne disease. Climate change is expected to make the situation worse. Intergovernmental Panel on Climate Change studies suggest that rainfall will decrease in the already arid areas of Eastern and Southern Africa and in the north of Central Africa, increasing drought and desertification. In West Africa the countries of Benin, Burkina Faso, Ghana, Mauritania, Niger and Nigeria all face water scarcity by 2025.

Wilson Kwamboka/UNEP/Topham

■ **The Policy Reform scenario, where strong social and environmental policies temper market-driven prescriptions.**
■ **The Fortress World scenario, where the world fails to heed the need for strong policy reforms on the environment, the minority elite retreat to protected enclaves, and most people suffer hardship and impoverishment.**
■ **The Great Transitions scenario, where a new paradigm is developed in response to the challenges of sustainability.**

The scenarios showed that population, migration to cities and deforestation all grew most rapidly under the Fortress World Scenario while wealth generation trailed at a slower pace. The Great Transitions scenario, by contrast, performed best against all these yardsticks. The report concludes: 'African governments must show a greater commitment to solving environmental problems in an integrated manner with other development priorities, such as poverty.'



***Africa Environment Outlook** is available for US$37.50 plus postage and packing from Earthprint Ltd, PO Box 119, Stevenage, Herts SG1 4TP or by e-mail from orders@earthprint.com*

Essam M. Moawad/UNEP/Topham

■ *Urban areas*

More than three out of every five Africans still live in rural areas, but the rate of migration to towns and cities – 3.8 per cent a year – is one of the highest in the world: in Malawi it is 6.4 per cent. Slums are proliferating, and governments and local authorities have not been able to meet the increased demands for housing and basic services.

Rene Baltazar Lopez/UNEP/Topham

Apollo Mboweni/UNEP/Topham

Kenneth Cushner/UNEP/Topham

Forests ■

Forests cover about 22 per cent of the region, but they are disappearing faster than anywhere else in the developing world. During the 1980s Africa lost 10.5 per cent of its forests. They protect and stabilize soils, recycle nutrients and regulate the quality and flow of water. They also perform a global service by soaking up carbon dioxide that would otherwise help accelerate global warming: they cover 45 per cent of Central Africa, where the Congo Basin boasts the world's second largest area of contiguous forest. Reserves have been set up, but the pressure on forests remains serious.

Renebo Rantsoane/UNEP/Topham

CRITICAL ENERGY

JOSÉ GOLDEMBERG describes how increasing the use of renewable sources of energy is essential for sustainable development

Access to clean energy is essential for alleviating poverty and fulfilling sustainable development goals. Energy is both an engine of development and a source of many of the problems we face. Approximately four fifths of all the energy used worldwide comes from fossil fuels – and they are also the main contributors to environmental and health problems at local, regional and global levels. Meanwhile, much biomass in the form of wood and agricultural waste continues to be used in inefficient cooking stoves in rural areas – a major source of health problems, which mainly affect poor women and children. Providing alternatives to substitute for wood fuels and to support new opportunities for earning income would address the needs of more than a half billion poor people around the world.

Access to clean energy may by no means be sufficient in itself to ensure sustainable development, but it is an essential component of strategies for rural jobs, education, food, security, water supplies, urban and rural public health, local self-sufficiency and a host of other development benefits.

Renewables

Reducing the consumption of fossil fuels in both industrialized and developing countries through energy efficiency measures and expanded use of 'new renewable energy sources' (biomass, wind, solar, small hydro and geothermal) is therefore critical.

National governments, households and private companies spend $250 billion per year on new energy supply infrastructure: $40-60 billion of this on rural electrification. Much larger sums are spent on the infrastructure that consumes energy and more than $1 trillion per year on direct energy purchases. Even small positive shifts in these investments and purchase can influence sustainable development. Governments have a wide choice of policies to affect these expenditures at both national and local levels, and in both rural and urban contexts: in practice, some have proved much better than others.

'New renewable energy sources' amount, worldwide, to 2.2 per cent of the primary energy supply, representing some $20 billion per year of energy expenditures. They include modern biomass, small hydropower, geothermal energy, wind energy, solar energy (including photovoltaics) and marine energy. 'Modern biomass' excludes such traditional uses of biomass as fuelwood and includes generating electricity and producing heat and liquid fuels for transportation from agricultural and forest residues and solid waste.

The advantages of new renewable energy sources over fossil fuels – which dominate the energy scene today, accounting for 81 per cent of supply in OECD countries and 70 per cent in developing countries – are well known. They:

- enhance diversity in energy supply markets;
- secure long-term sustainable energy supplies;
- reduce atmospheric emissions (local, regional and global);
- create new opportunities for employment in rural communities offering possibilities for local manufacturing;
- enhance security of supply, since they do not require the imports that characterize supplies of fossil fuels.

Besides, renewables are a powerful instrument for reducing poverty since using them:

Marshall Space Flight Center/NASA/Peterson

- can improve access to pumped drinking water using indigenous sources: providing clean water and cooking food both reduce hunger (95 per cent of food needs cooking);
- reduces the amount of time spent by women and children on basic survival activities, such as gathering firewood, fetching water and cooking;
- meanwhile, lighting permits home study, increases security and enables the use of educational media and communications in school; and reduces deforestation.

The Global Environment Facility (GEF) Roundtable on Sustainable Energy, which met in January 2002 – as a parallel event to PrepCom II of the World Summit on Sustainable Development (WSSD) – recommended adopting targets and timetables to increase the contribution of renewables as one of the possible government actions:

'Governments should adopt targets and timetables for increasing both energy efficiency and the use of renewable fuels, building on existing targets, such as the EU target of attaining 12 per cent of energy from renewables by 2010 and India's target of attaining 10 per cent of new power generation from renewable energy by 2012. Setting of targets, along with the adoption of policies and measures, sends a strong economic and political message that can unleash the power of the market.'

A meeting of the Ministers of the Environment from Latin American and Caribbean countries, in São Paulo in May 2002 prior to PrepCom IV, adopted as a resolution a Brazilian Energy Initiative drafted as: 'Increase in the region the use of renewable energy to 10 per cent as a share of total by 2010' (Draft of the Final Report of the 7th Meeting of the Intersessional Committee of the Forum of Ministers of the Environment of Latin America and the Caribbean).

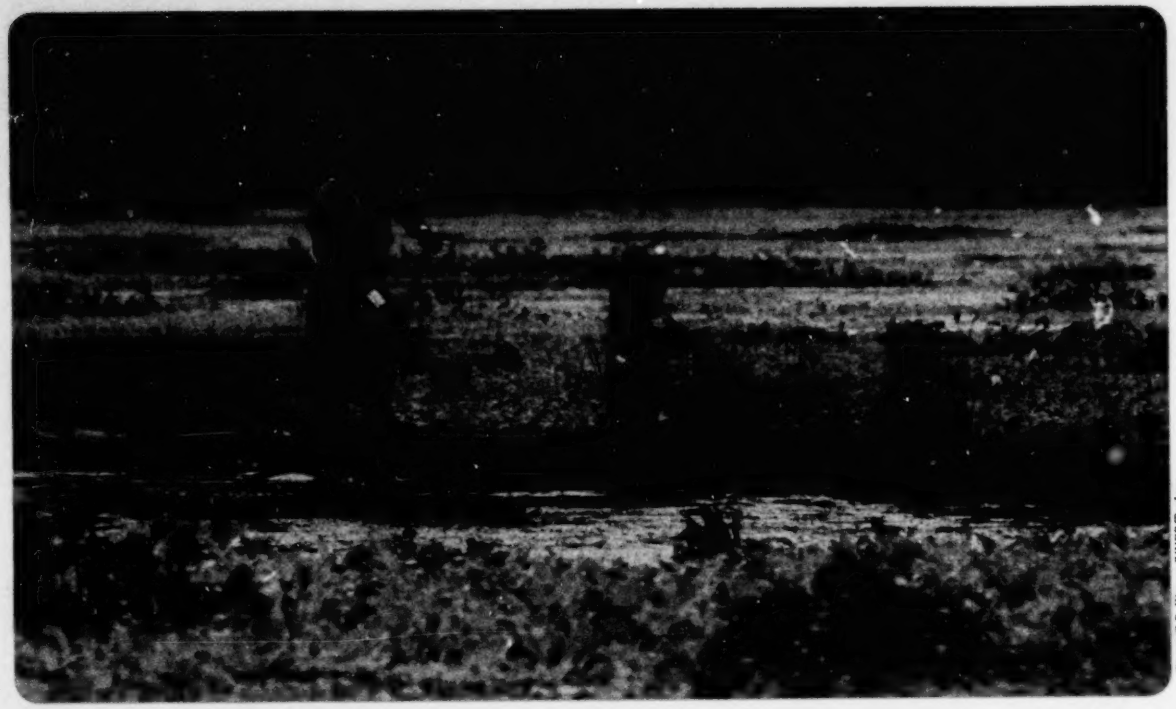
The Initiative proposal allows trading of 'new renewable energy' certificates among countries, which could reach their targets individually or jointly. The ideas proposed at the GEF Workshop therefore led to such 'Type I' initiatives as mandatory targets and timetables for all countries being discussed at the WSSD in Johannesburg. Since such strong initiatives raised objections from oil-producing countries, a number of Type II initiatives – voluntary associations among countries to promote renewables – are also proposed: some of them are already being implemented.

Access to clean energy is an essential component of strategies for rural jobs, education, food, security...

Falling costs

The strongest argument against the increased use of new renewables is their high cost and consequent lack of competitiveness with conventional fuels. This was indeed the case in the past but – as is usual for most products – the cost of renewable energy falls as consumption of renewable energy increases. There is thus no question that the share of new renewable sources in world energy consumption is increasing, opening the way for a sustainable energy future ■

José Goldemberg is Secretary of State for the Environment of the State of São Paulo, Brazil.



Stuart G.R. Warner/UNEP/Topham

MAPPING THE HEALTH of the planet

ROBERT T. WATSON describes the increasing impact of human activities on ecosystems, and the goods and services they provide, and outlines a new assessment of them

Important progress has been made in reducing poverty and improving the quality of life over the past several decades. Life expectancy and per capita income have increased, infant mortality has decreased and there has been fuller involvement of civil society in decision-making. But significant progress is still required.

Billions of people, especially the rural poor, still lack access to nutritious food, clean water, sanitation, electricity or a healthy environment. Disenfranchised groups lack empowerment, opportunity and security: this is evidenced by the inequitable distribution of benefits from globalization; the limited access which many poor people have to productive resources and technological innovation; and the exclusionary land tenure arrangements found in many countries. Environmental degradation at the local (e.g. water pollution) and regional (e.g. land degradation) scales continues unabated in most developing countries – depleting natural capital, undermining the livelihoods of the poor, and limiting rural economic growth. And, at the global scale, the Earth's climate continues to change, and biological diversity is being lost at an unprecedented rate, undermining the ecological basis for sustainable development.

Progress towards sustainable development depends upon better managing the Earth's ecosystems. These affect human well-being directly through supplying such goods as food, timber, genetic resources and medicines, and such services as water purification, flood control, coastline stabilization, carbon sequestration, waste treatment, biodiversity conservation, soil generation, pollination, maintenance of air quality, and the provision of aesthetic and cultural benefits. And they affect it indirectly through impacts on poverty, health, livelihoods, security and economic development.

Human impact

The magnitude of human-induced changes in terrestrial and marine ecosystems is unprecedented. Some 40 to 50 per cent of land is now transformed or degraded. Some 60 per cent of the world's major fisheries are overfished. Natural forests continue to disappear at a rate of about 14 million hectares each year. And other ecosystems such as wetlands, mangroves and coral reefs have been substantially reduced or degraded. Other human-induced impacts on ecosystems include alteration of the nitrogen and carbon cycles causing acid rain, eutrophication, climate change and increased rates of species extinction. All these changes have had significant, but largely unquantified, impacts on the production of ecosystem goods and services.

Projected demographic changes and economic growth will lead to an increasing demand for biological resources. This implies even greater impacts on ecosystems and the goods and services that flow from them. Projections suggest, for example, that an additional one third of global land cover will be transformed over the next 100 years; world demand for cereals will double within the next 25-50 years; demand

for freshwater will increase to an equivalent of more than 70 per cent of run-off: and demand for wood will double over the next half-century.

It is now well recognized that there is a trade-off among ecological goods and services. While converting a forest to agriculture may increase food production, for example, it may decrease the supply of clean water, timber, biodiversity or flood control – which may be of equal or greater importance. An integrated approach to agriculture, land use, and coastal and ocean management must be adopted to encompass the differing ecological, economic, social, cultural and institutional implications of sustainable use and conservation.

As the capability of many ecosystems to provide essential goods and services is being diminished, many governments are now beginning to recognize the need for managing these basic life support systems more effectively: this is particularly important as a tool for poverty alleviation. The importance of managing ecosystems better is also recognized in the private sector, both by industries dependent directly on biological resources (such as timber, fishing or agricultural firms), and those that are not (e.g. extractive industries such as mining). Companies increasingly recognize the importance of being good 'corporate citizens' by focusing on the triple bottom line of economic growth that is environmentally and socially sustainable.

Multi-scale assessment

The United Nations Secretary-General recognized the growing burden that degraded ecosystems are placing on human well-being and economic development in his *Millennium Report* to the United Nations General Assembly, and said:

'It is impossible to devise effective environmental policy unless it is based on sound scientific information. While major advances in data collection have been made in many areas, large gaps in our knowledge remain. In particular, there has never been a comprehensive global assessment of the world's major ecosystems. The planned Millennium Ecosystem Assessment, a major international collaborative effort to map the health of our planet, is a response to this need.'

The Millennium Ecosystem Assessment (MA) is a multi-scale assessment: this means that it comprises interlinked assessments conducted at different geographic scales, ranging from local communities to the entire globe. It has been authorized by the Convention on Biological Diversity, the Convention to Combat Desertification and the Ramsar Wetlands Convention, and is carefully coordinated with other international scientific assessments. It will also contribute directly to decision-making needs at sub-national scales and within the private sector and civil society.

The magnitude of human-induced changes in terrestrial and marine ecosystems is unprecedented

The Assessment builds upon earlier sectoral and integrated assessments and focuses on three issues: the current and historical trends in ecosystems and their contribution to human well-being; options for conserving ecosystems and increasing their contribution to human welfare; and future scenarios for change in ecosystems and human well-being. Its 'value added' is in its cross-sectoral and cross-scale analysis.

Three issues

The multi-scale framework is unique. Other global assessments have included strong regional analyses (e.g. the third assessment report of the Intergovernmental Panel on Climate Change), but the MA also incorporates formal assessments undertaken at the sub-global scale, with their own stakeholders, authorizing environment and user-driven process.

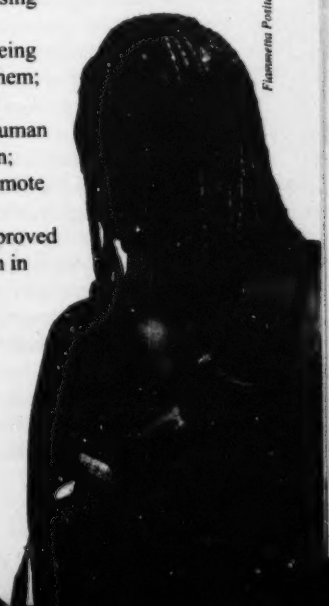
The MA has been structured to ensure that it meets the tests of saliency, credibility, transparency, legitimacy and utility. It has been designed to:

- meet high scientific and technical standards, including a rigorous and transparent peer review process;
- be policy relevant but not policy prescriptive;
- be independent from political pressure, while responsive to user needs;
- include an open process for nominating and selecting experts ensuring regional, disciplinary, gender and stakeholder balance, while seeking to expand the community of experts conducting the assessment to include local and traditional knowledge;
- ensure a balanced reporting of perspectives, identifying what is known and unknown, including key uncertainties;
- embrace issues associated with risk assessment, management and communication;
- be owned and authorized by all relevant stakeholders;
- include an effective strategy of outreach and communication of the process and results.

Major sponsors include the Global Environment Facility, the United Nations Foundation, the David and Lucille Packard Foundation, the World Bank, UNEP, and the Governments of Norway, China, Japan and the United States.

The MA will contribute to increasing public awareness of the impacts of ecosystem change on human well-being and of the steps needed to address them; improved national and sub-national decisions concerning ecosystems, human development and poverty alleviation; stronger business strategies that promote ecosystem health and the sustained enterprises dependent on it; and improved international and global cooperation in ecosystem management ■

Dr. Robert T. Watson is Chief Scientist and Director, ESSD, The World Bank; and Board Co-Chair of the Millennium Assessment.



Flamenetta Postiumes/UNEP/Topham

Akbar Mirzakhanoff/UNEP/Topham

Regaining ground

HAMA ARBA DIALLO says that desertification is a global problem and that tackling it requires global support

Desertification is both a cause and a consequence of poverty. A global problem, it has grave environmental consequences and generates major economic and political disruptions including loss of income – $42 billion a year worldwide – increasing poverty, mass migration and conflicts.

Poverty forces those who depend on land for their livelihood to overexploit it for food, energy, housing and sources of income. The resulting land degradation and the loss of productivity in turn destroy food security and increase poverty. Those affected are forced to leave their lands to seek other means of making a living, possibly coming into conflict with those already settled in the areas to which they migrate. In all, 135 million people – the equivalent of the population of Germany and France combined – are at risk of being displaced as a consequence of desertification. Half of the 50 armed conflicts around the world in 1994 had environmental factors characteristic of drylands among their causes. Desertification, poverty and environmental refugees mutually reinforce each other.

In Africa alone, an estimated $9 billion are lost from desertification every year. Half of the 50 million people expected to be environmental refugees by 2010 are from sub-Saharan Africa. By 2020, it is estimated, 60 million refugees will have moved from desertified areas in the Sahelian region to North Africa and the shores of Europe. Meanwhile, by the same year, the mass exodus from desertified drylands is projected to multiply the urban population in coastal cities of the Sahel 3.5 times over from its 1996 level to reach 271 million. The environmental resources in and around the cities and camps where they settle will come under severe pressure.

The problem, however, is not confined to the African drylands. Desertification affects over 110 countries worldwide. Some 70 per cent of the 5.2 billion hectares of dryland used for agriculture worldwide – 30 per cent of the Earth's total land area – is already degraded and threatened by desertification. If this is left unchecked, arable land is expected to shrink by one third in Asia, two thirds in Africa and one fifth in South America, putting livelihoods at risk and propelling people to migrate.

Migrant workers

In Mexico, for example, drought and overexploitation of land and water have lowered the aquifers in the most heavily populated central region of the country to 40 per cent of their former levels. As a result, between 700,000 and 900,000 Mexicans leave their homes in the rural dryland every year and go to seek their livings as migrant workers in the United States of America. Many of the 12 million people affected by drought in Brazil's northeastern Sertao region have migrated to São Paulo: they swelled the population of the city by 300,000 in 1999 alone. Over the last two decades 1.3 million people have fled Haiti as a result of environmental degradation compounded by political unrest: the island's per capita grain production dropped by half between 1926 and 1996 and it only meets 80 per cent of its people's nutritional needs.

Over 30 per cent of the land in the United States is affected by desertification. One fifth of Spain is at risk of turning into desert. Dust storms from deserts in northern China and Mongolia blow as far as Korea and Japan – and across the Pacific Ocean – forcing airports and schools to close.

Poverty forces those who depend on land for their livelihood to overexploit it

Cheng Hongdao/UNEP/Topham

Le Quang Phu/UNEP/Topham

In China alone, some 24,000 villages, 1,400 kilometres of railway lines, 30,000 kilometres of highways and 50,000 kilometres of canals and waterways are constantly threatened by desertification. And there are many more examples from around the world.

The international community adopted the United Nations Convention to Combat Desertification (UNCCD) in 1994 to address this growing global threat effectively: it entered into force in 1996. By July 2002 181 states had already become Parties to the Convention, which has so far been successful in raising worldwide awareness on desertification and land degradation. The Convention has matured over these years and is now moving from the preparation of National Action Programmes (NAPs) – which outline long-term policy guidelines and are the primary tools for achieving the objectives of the UNCCD – to their implementation. As at July 2002, 57 country Parties had completed their NAPs. And the Convention's reach became truly global when a fifth regional annex for Central and Eastern Europe was adopted in 2000 (entering into force in September 2001) to join the existing four – for Africa, Latin America and the Caribbean, the northern Mediterranean, and Asia.

Somkiat Sirrikul/UNEP/Topham

Strengthened capacities

The Convention is based on the principles of participation, partnership and decentralization – the backbone of good governance. The bottom-up approach that it has adopted, from the decision-making to the implementation process of the NAPs, has raised the profile and strengthened the capacities of those directly affected by desertification, and key local actors have succeeded in identifying and addressing challenges linked to sustainable development.

The UNCCD has repeatedly identified the lack of predictable financial resources as the greatest impediment to the implementation process. It therefore welcomed the Global Environment Facility's (GEF's) decision in May 2001 to designate land degradation, primarily desertification, as a focal area as a means of enhancing its support for the successful implementation of the Convention. The GEF's financial support to the UNCCD is indeed indispensable if desertification and land degradation are to be contained and reversed. We therefore believe that the GEF Assembly will confirm the recommendation of its Council by identifying land degradation, primarily desertification, as a new, fully fledged focal area of the Facility, and will hear and implement the call made by the World Summit on Sustainable Development to designate the GEF as a financial mechanism of the UNCCD ■

Hama Arba Diallo is the Executive Secretary of the United Nations Convention to Combat Desertification.

Mohammadur Rahman/UNEP/Topham

Two to TANGO

JOKE WALLER-HUNTER describes the partnership between the GEF and the climate convention and looks at how it may develop in future

Humanity has long taken the global climate system for granted. It is being destabilized by the economic and demographic growth of the past two centuries. Emissions of carbon dioxide and other heat-trapping gases from all sources and social origins – be they wasteful emissions or emissions arising from meeting basic human needs – have enhanced the natural greenhouse effect, making the Earth warmer than it should naturally be. The impacts are essentially negative.

Climate change is a common – and perhaps the greatest – environmental challenge to all humanity. Yet it hits hardest at the least developed countries, which are least responsible for it and which are also the least able to adapt to its adverse impacts. This is environmental dumping on a global scale. Its inequitable impact is an added factor of stress in global society.

The 1980s recognized that the global character of the new and emerging environmental problems – like climate change and the loss of biodiversity – required new approaches to international environmental cooperation. The period between the Brundtland Commission and the Rio Earth Summit, roughly from 1984 to 1992, was one of the most creative and productive in the recent history of international environmental management. It was soon recognized that developing countries could only be expected to make a contribution in dealing with global issues – where both they and developed countries necessarily had to be involved – if there was an appropriate financial scheme in place to offset the additional costs. The Global Environment Facility (GEF) and the Climate Convention were conceived and developed in that period, benefiting from extensive cross-fertilization. At the time of the Rio Summit, the Climate Convention was agreed and the GEF was operational on a pilot basis.

The ultimate objective of the Convention is to halt the build-up of greenhouse gases in the atmosphere before it becomes dangerous, affecting food production and preventing ecosystems adapting naturally to climate change. Efficiency in limiting future emissions is vital for success. Climate change is a by-product of two centuries of economic growth, and thus action to address it must pass through the economy of the 21st century. Major technological innovations are needed in the energy, transport and industrial sectors in all countries.

First priorities

Tackling climate change must be compatible with advancing the aspirations of the world's poor, as part of their efforts to achieve sustainable development. Meanwhile, industrialized countries in particular are concerned that the economic costs of mitigating climate change should be minimized. The Convention recognizes these concerns in a number of ways. It acknowledges, for example, that the first and overriding priorities of developing countries are to alleviate poverty. It also emphasizes the importance of promoting sustainable development, noting that sustainable economic growth and

development will enable countries to address climate change better. And it calls for policies and measures to deal with climate change to be cost-effective, to ensure global benefits at the lowest possible cost.

Article 11 of the Convention defines a mechanism for the provision of financial resources to developing countries for implementing it, to function under the guidance of its Conference of the Parties (COP).

The GEF was designated to be the interim financial mechanism. When the Convention entered into force in March 1994, negotiations to restructure the GEF after the pilot phase were also concluded. That year $2 billion was pledged in support of GEF's mission to protect the global environment and promote sustainable development.

The next year – at the first Conference of the Parties – the GEF received its initial guidance on policies, programme priorities and eligibility criteria for funding activities to assist developing countries meet commitments under the Convention on the principles of full agreed costs and full agreed incremental costs. The GEF then developed its operational strategy according to these principles. It included three initial operational programmes to address greenhouse gas mitigation – on energy efficiency and conservation, renewable energy and low greenhouse gas emitting energy technologies. Activities also started to support the preparations of national communications that are required under the Convention.

The negotiations and conclusion of the Kyoto Protocol in 1997 – followed by the Bonn Agreement and the Marrakech Accords in 2001, that paved the way for implementing it – resulted in additional possibilities for financial support for climate activities. The Bonn Agreement called for the establishment of new funds to help implement the Convention and the Protocol. Political declarations by the European Community and its member states – together with Canada, Iceland, New Zealand, Norway and Switzerland – indicated their intention to contribute € 450 million annually by 2005. The Marrakech Accords established three new funds: the Special Climate Change and Least Developed Countries Funds under the Convention, and the Adaptation Fund under the Kyoto Protocol. The Funds are to be managed by the GEF.

Since 1991, the GEF has provided nearly $1.5 billion in grants for climate change activities and leveraged more than $6.0 billion through co-financing. From July 1998 to May 2002, total project financing for climate change activities exceeded $3.67 billion, with the GEF providing $648 million in grants.

The first and overriding priorities of developing countries are to alleviate poverty

Learning by doing

The scope of climate activities under the GEF – which until then had mainly focused on mitigation – was thus broadened to include adaptation and capacity-building, as the COP requested in November 2001. This provides an opportunity to seek synergy in implementation with the Biodiversity and the Desertification Conventions, if the scope of the GEF is indeed broadened to include desertification. Kyoto's market-based instruments – the Clean Development Mechanism (CDM) and a system of emission trading – provide incentives for the private sector to seek investments in climate projects overseas. GEF has already identified the need to contribute towards creating enabling environments for market transformation. The CDM and trading schemes may trigger a stronger role for the Facility in enabling activities – including capacity-building, – compared to the investment projects which currently dominate its funding.

The ten years since Rio have seen a lot of learning by doing. The Convention and the GEF together – through their COP and Council respectively – have struggled to give operational content to such complex concepts as common but differentiated responsibilities, incremental costs and global environmental benefits. We have learned to cooperate. After more than ten years of negotiations, the focus on the climate front will have to be squarely on implementation. The level of the third replenishment of the GEF Trust Fund, in relation to the resources needed to implement the Convention and the Protocol, underlines the increased need for GEF funding to leverage other multilateral, bilateral and private funding. This requires a continuing intensive relationship between the COP to the Convention and the GEF Council and their respective Secretariats. It takes two to tango.

We have learned the steps, now it is time to dance to the tune of sustainable development ■

Michael Cox/UNEP/Topham

Joke Waller-Hunter is Executive Secretary, UNFCCC Secretariat.

Linking knowledge **to action**

UNEP/Topham

JULIA CARABIAS emphasizes the importance of integrating science and technology into solutions for environmental problems, and describes the work of the GEF's Scientific and Technical Advisory Panel

Important advances have been made towards achieving sustainability in the three decades between the 1972 Stockholm Conference on Human Environment and this year's World Summit on Sustainable Development.

The concept of sustainable development has been endorsed in most countries and has gradually brought the economic, the social and the environmental perspectives of development closer.

- **It is accepted that sustainability entails common but differentiated responsibilities, demanding the best possible effort from countries proportional to their specific economic, institutional and cultural capacities.**
- **International environmental agreements have been created.**
- **Better understanding, diagnosis and monitoring of environmental processes have developed.**
- **Most countries have developed some sort of a programmatic platform and institutional capacity to manage the environment.**
- **Conscience and participation are increasing with an incremental involvement of the universities and research centres, the private sector and non-governmental organizations.**

However, neither local national efforts nor multilateral principles, commitments and agreements have been enough to curb the trends of deterioration and impoverishment, much less to reverse them. It is even difficult to evaluate what has been achieved because of what a recent workshop in Mexico identified as the lack of 'reliable baseline data on the state of the Earth's ecosystem and biodiversity to match the progress of the last decades in documenting the state of human development'.

The lack of specific goals, targets and indicators has limited quicker progress towards sustainability, as has the way in which countries have lagged behind in fully meeting their commitments.

Financial resources have definitely been another major limiting factor. This is why the Global Environment Facility (GEF) is so relevant, as the major source of funding for international environmental agreements – and the only new one since the 1992 Earth Summit.

Significant results

GEF is the designated financial mechanism for the international Conventions on Biological Diversity, Climate Change and Persistent Organic Pollutants, and it supports the work of the global agreements to combat desertification, and to protect international waters and the ozone layer. It has catalysed innovative programmes and has produced significant results in improving the global environment. It has also enabled developing countries to meet their obligations under the Conventions.

Chen Ki An/UNEP/Topham

GEF is now facing much pressure through having to manage growing demand on constrained resources. It has to attend an increasing number of conventions, add new focal areas, expand the range of activities under older conventions and set strategic programming objectives.

It has recently gone through a deep process of internal analysis to strengthen its role and structure to meet its expanding responsibilities. The Second Overall Performance Study (OPS2), commissioned by the Governing Council, is very valuable in this. In response GEF adopted a new approach to programming according to agreed strategic priorities. This is a major challenge which will require the efforts of all participants – and, very importantly, scientific and technical support – to maximize the impacts and results.

The scientific community is concerned that while science and technology have brought important advances in the understanding of global environmental problems – and provided great opportunities to advise how they could be solved – there are still big gaps in implementing solutions. Few scientific organizations worldwide are clearly linked to decision-making processes. Similarly, few institutions permanently consult and closely collaborate with scientific and technical advice over implementable solutions; the GEF is a very rare exception.

Science and policy

The GEF has recognized the importance of integrating science and technology into the solution of global environmental issues. That is why the Council has the Scientific and Technical Advisory Panel (STAP) as its advisory body. It serves as a bridge between science and policy across social and natural scientific disciplines and provides a way of linking knowledge to action.

Among other tasks, STAP provides strategic advice, conducts selective

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STAP provides a way of linking knowledge to action

reviews of projects, maintains a Roster of Experts and interacts with the scientific and technical bodies of the conventions. It also advises on the development of scientific and technical criteria in focal areas where the GEF is not operating as a convention's financial mechanism, and provides scientific and technical advice on priorities for GEF funding. STAP is not designed to produce new science and technology and the GEF is not an institution for building the capacity needed to produce the science to address the sustainability challenges. But STAP is designed to bring scientific and technical knowledge into GEF work and to warn on emerging issues and gaps, through information, options and analysis and a wide dialogue with the global and regional science and technology networks.

International participation

STAP has benefited from the participation of scientists from all over the world, from developed and developing countries alike. They have had wide experience in scientific research, but have also always been linked to national or international fora of decision-making processes, and had a strong understanding of global and social environmental problems.

As my predecessor, Madhav Gadgil, reported earlier this year, STAP has: 'helped develop the scientific and technical basis for the GEF policy framework of the agro-biodiversity integrated ecosystem management and persistent organic pollutants; the action plan on land degradation; and the policy framework on forest and biodiversity; led the development of GEF's strategic thinking on adaptations to climate change; alerted the GEF family to the implications of power sector reform for energy efficiency and renewable energy technologies'.

In the GEF's new stage, STAP must help to:

- **identify priorities on the basis of a broad understanding of global environmental issues;**
- **identify new issues or innovative solutions that are scientifically supported and socially and economically viable, while regarding the particularities of each situation – at regional, national and local levels – that would enhance the quality of GEF interventions;**
- **help develop indicators to measure the impacts of projects in each focal area, and of GEF projects on the global environment.**

The conventions have addressed solutions to global environmental problems in a compartmentalized way by targeting specific issues. This is necessary to help solve specific problems. But solutions also need an integrated approach, because nature works in an integrated way. The extremely complex inter-(re)action of nature and society makes this even more necessary.

It is now very important to build such an approach, to define the interaction between global problems as clearly as possible, and to propose actions to address this that are not included in any of the conventions.

STAP can play an important role in helping the GEF in its prioritization process to make the best use of financial resources. It is very important to understand the GEF's achievements in solving global environmental problems, but it is impossible to do this simply by evaluating the results of each of the many projects it has supported, on an issue-by-issue basis. A new effort now needs to move from case studies and pilot projects towards assembling a body of comparative and critical knowledge so as to build an integrated approach.

The GEF is the best source of information on hundreds of local and pilot projects, with varying experiences, outlooks and methodologies. Analysing this information can provide the empirical data to build an integrated approach and supply the indicators needed to evaluate interactions between society and the biosphere.

John Chandler/UNEP/Topham

Leo Vincent Jayaswal/UNEP/Topham

STAP should help GEF incorporate science, technology, and local and indigenous knowledge to build both such an approach and the capacities to address the interrelations of biodiversity, land degradation, international waters, climate change and persistent organic pollutants. This will help build synergies across the conventions.

Integral concepts

Important advances have taken place in analysing such integral concepts as adaptation, vulnerability and resilience. These help understand and manage the complex socio-ecological systems that are the heart of the sustainability challenge, and make it easier to propose solutions.

Last March a workshop organized by STAP took an important step to identify key gaps in adaptation. It pinpointed the lack and inadequacy of baseline data for assessing vulnerability and adaptation and the need for understanding adaptive capacity better.

Much must be done in this area in the GEF family and STAP must play a major role in it. GEF programmes and projects must continue to be based on innovative methods and instruments, cutting-edge science and new scientific findings. Both the GEF and STAP should be strengthened to achieve the new challenges ■

Julia Carabias, Professor of the Faculty of Science of the National Autonomous University of Mexico (UNAM) and Coordinator of its Restoration Ecology Programme, is Chair of STAP.

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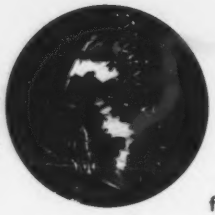
Globalizing **benefits**



UNEP/Topham

LEIF E. CHRISTOFFERSEN examines the GEF's mission, evaluates its success in achieving it, and suggests areas for improvement

In the years running up to the 1992 Rio Earth Summit, a series of scientific findings and assessments underlined the dangers of ozone depletion, climate change and severe threats to important ecosystems. The threats were clearly global. Addressing them required remedies and resources beyond the individual abilities of each nation state. New global conventions were set up to deal with them, and UNEP played an influential role in these processes. Meanwhile growing public acceptance of the science formed a vital base upon which political decision-makers could establish the Global Environment Facility (GEF) in 1991.

The GEF was expected to use its own funds as a catalyst for mobilizing and leveraging funding from both public and private sources. It has therefore had to work closely with knowledgeable and operationally experienced multilateral institutions. Its institutional arrangement was built upon a core partnership of three of these – the United Nations Development Programme, UNEP and the World Bank.

The 1990 Multilateral Fund – which supported the Montreal Protocol on Substances that Deplete the Ozone Layer – officially established the new idea of a dedicated convention-related financial mechanism, supporting measures to address global environmental problems which involved additional costs for developing country members. Subsequent conventions followed the same pattern. The concept of global environmental benefits – requiring separate funding, clearly distinguishable from official development assistance (ODA) – gradually gained international recognition.

Frans Hadimans/UNEP/Topham

At the same time, overall ODA flows to developing countries declined, even though Agenda 21 increased hopes that sustainable development would raise new and additional ODA for developing countries, placing them in a much stronger position to integrate environmental issues into their national development programmes and policies.

Establishing a context

It was therefore not surprising that some tension was built into the concept of funding global environmental benefits. Member countries, non-governmental organizations (NGOs), and international development institutions faced many financial demands for urgent environmental needs at local and national levels. It was, therefore, very important to establish the development context within which GEF activities would be placed.

It can be difficult to distinguish between global and national benefits, and the dividing lines are open to negotiation. GEF activities can also bring direct national and local benefits with the same investments that focus on achieving global ones. A rather flexible interpretation of the concept of global environmental benefits might seem to have some operational advantages. However, such flexibility has inherent dangers. It must not undermine the GEF's prime mission. For each project the global benefits must be measurable and have a solid scientific foundation. It was also understood that the GEF would operate within a sustainable development context in each country, while focusing on global environmental benefits. Operational opportunities for funding environmental benefits can often best be explored when associated with national development and environment plans and programmes. This country-driven focus has shown some improvements over the last decade, but much more progress needs to be made.

Many projects in the GEF portfolio provide good examples of positive results from this two-pronged approach. Climate change projects are both reducing the carbon emissions which increase global warming and providing such local benefits as better energy efficiency and improved health from reduced air pollution. Biodiversity projects addressing global priority objectives have also provided added income and employment from new tourism and from the sustainable use of flora and fauna and other natural resources. Furthermore, funding from other donors associated with GEF projects has brought additional development and environmental benefits.

Increased awareness

International development assistance agencies are now more aware of environmental issues and there is much stronger interest in financing national and local environmental activities under ODA programmes. Nonetheless, the

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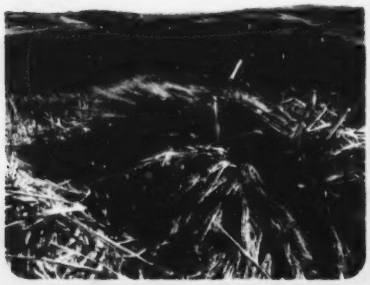
concept of global environmental benefits is not easily translated into practice. Two previous evaluations of the GEF called for better clarity and operational guidance on the term 'global environmental benefits' and particularly so for the focal areas of biodiversity and international waters. The most recent external evaluation (OPS2) concluded that this is still a priority area for GEF attention. The new focal area of land degradation has made this even more urgent.

The role of science in the global conventions has been emphasized by the separate scientific and technical bodies established to advise their Conferences of the Parties. From the start, institutional arrangements for the GEF included a separate Scientific and Technical Advisory Panel (STAP). UNEP has the main responsibility for convening and servicing the STAP, which consists of individual scientists (currently 15) of high international standing (see article by Julia Carabias on page 26).

The STAP has had some difficulties in finding an effective role in GEF operations. It has now given considerable attention to examining new programmes and reviewing criteria for planning and approval of projects. OPS2 noted progress, but also pointed to ways to strengthen the use of scientific and technical expertise in more systematic and comprehensive ways.

Scienctific advice

Science – which set the stage for galvanizing political support for international action to address global environmental problems – should also have a role in providing advice on how to monitor and measure achievements. The STAP should be able to muster considerable guidance on this by working closely with the scientific bodies



Jacky Sawatha/UNEP/Topham

Kaitta Manchi Balakrishna/UNEP/Topham

Political considerations need to be cognizant of scientific and technical ones

of the global conventions: this would have considerable strategic importance for the GEF. It would also have to work with other stakeholders since, to a large extent, the task involves the technical capacities, the operational experiences, the country knowledge of the other GEF partners – and makes contributions to very important efforts, led by the GEF Secretariat, to strengthen monitoring and evaluation processes for projects.

The GEF will always have to be able to define the concept of global environmental benefits in operational terms, and in ways the interested public can easily understand. Scientific expertise can contribute valuably to measuring, assessing and verifying the extent to which global benefits are being achieved at the completion of a project, or – where verifying the main impacts is likely to take longer – whether the completed project is progressing in a direction which makes it likely that global benefits will be achieved in the foreseeable future.

The long-term interest of all parties in the GEF is to ensure that its policies, programmes and procedures are well understood. It has made commendable advances in pioneering open access to its Council and project documents: its Council papers, policies, programmes and evaluation reports are easily accessible through the Internet. But it still needs to improve its effectiveness over how such information is disseminated.

The essence of an effective communication and information strategy is to be able to convey the main mandate of the GEF in achieving results that have global environmental benefits while also explaining the associated local and national benefits accompanying most projects. In this sense science and communications come together. It would help strengthen credibility if solid scientific assessments were part of project completion reporting and post-project evaluations of results.

Combined effect

The Swedish scholar, Helen Sjøberg, has noted that it is the combined effect of scientific and political criteria that defines the GEF's mandate and gives it its particular character. Both will continue to be important while implementing and evaluating its activities and results. Political considerations need to be cognizant of scientific and technical ones. Certainly, considerable care is needed to ensure that politics does not overwhelm or undermine science.

The GEF provides a novel and unique financial mechanism for countries and people to unite around a common set of global objectives towards achieving tangible global environmental benefits. By producing results that have tangible impacts and wide credibility, it could become a model for a possible expansion of this approach into other areas of key international concern ■

Leif E. Christoffersen is Senior Fellow, Noragric, the Agricultural University of Norway, and Team Leader of the Second Overall Performance Study (OPS2) of the Global Environment Facility, 2001.

Shomesh Avraham/UNEP/Topham

Schidniogrotzki/UNEP/Topham

Unpopular POPs

JACK WEINBERG explains why persistent organic pollutants are a global problem, and describes international efforts to reduce and eliminate them

The Stockholm Convention on Persistent Organic Pollutants, which is likely to enter into force next year, demonstrates that the world now recognizes toxic chemical pollution as critical. Support for the Convention is both broad and deep. Civil society organizations working in the fields of public health, environment and development all over the world are enthusiastic about it, while chemical industry trade associations also count themselves as supporters.

Before and during the 1980s, scientists studying the Great Lakes of North America, the Baltic Sea and the North Sea, observed health abnormalities in fish and wildlife. These included: reproductive failures and population declines; abnormally functioning thyroid glands and other hormone system dysfunctions; the feminization of males and masculinization of females; compromised immune systems; behavioural abnormalities; tumours and cancers. They also concluded that these were caused by persistent toxic chemical pollutants, widespread in these ecosystems.

Scientists and medical researchers then realized that these same toxic chemical pollutants are also found in foods that people eat, raising the important question of whether human health is also affected. Studies confirmed this was indeed the case. Many human health disorders and deficits have now been associated with exposure to these pollutants. They include: cancers and tumours; learning disorders, attention deficits and other nervous system impairments; immune system changes that may weaken a person's ability to fight off disease; reproductive failure and declines in male births; shortened period of lactation in nursing mothers; and increased incidence of diseases such as diabetes and endometriosis (a painful and debilitating gynaecological disorder).

A new term, 'persistent organic pollutants' or 'POPs', was introduced to describe the class of chemicals causing these problems. Their signal characteristic is that they travel long distances through the air and then fall out into water systems or onto vegetation in amounts sufficient to cause harm. POPs become concentrated in fish, meat and milk – and in people who eat them. They pose a particularly serious problem in the Arctic region because they are especially concentrated in its wildlife and harm Arctic indigenous peoples who depend on it for much of their diet. The cold climate of northern regions also increases the rate at which POPs fall out.

Only small amounts of POPs have ever been produced or used in the Arctic, but the chemicals travel there from distant sources to pose their serious and well-documented threats to its peoples and to ecosystems. This ensures that people and the environment cannot be protected from POPs by local, national or regional action alone. POPs pose a global problem, and need global action – as advocates and governments from northern regions were often the first to point out.

Assessing needs

In 1995, northern governments brought the issue of POPs to UNEP's Governing Council and secured a decision to assess the need for global action. Later that year, at the UNEP-sponsored Conference on Protection of the Marine Environment from Land-based Activities, governments agreed on the need for a legally binding instrument to reduce and/or eliminate emissions and discharges of POPs.

POPs are widely produced and used elsewhere in the world. They are generated as unwanted chemical by-products in many processes, are stored as wastes and contaminate

Leslie A. Harrison/UNEP/Topham

Activities that countries undertake to meet Convention obligations also provide important domestic benefits

soils and sediments. They pose severe threats to local environments and cause profound health injuries to local people and workers. They are therefore a local problem as well as a global one. POPs contamination in developing countries is often poorly documented, but exposures may be as severe, or more so, than in the Arctic, and many more people may be affected.

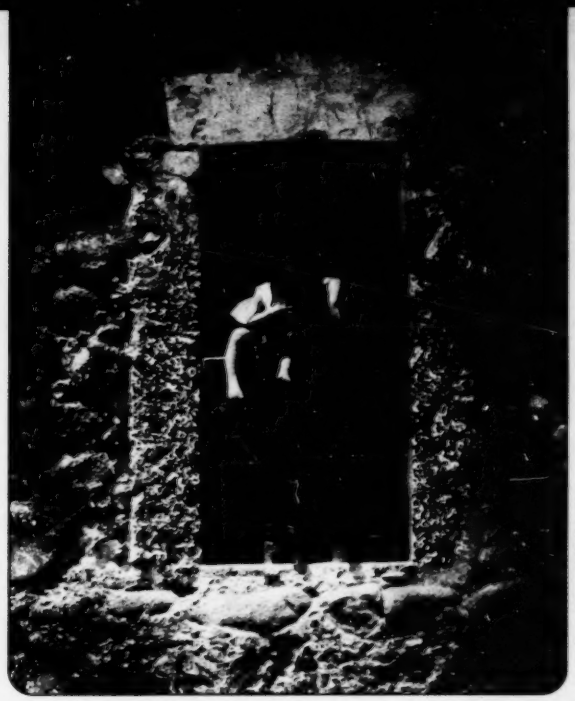
As information about the health and environmental harm caused by POPs and other chemical pollutants became widespread and available, it fuelled already growing concerns about chemical safety in many developing countries and countries in transition. But it often proved impossible to translate growing awareness about their harmfulness into meaningful programmes. It was generally difficult to secure the resources or the political attention required for effective national and local action. The government officials, academics and non-governmental organizations (NGOs) in developing countries most aware of the problem often became frustrated by their inability effectively to act on their knowledge.

Receptive audience

Though the drive to make POPs an issue of global concern was initiated in northern countries, it found a strong and receptive audience in the south. This coincided with other developments. Many government officials with responsibilities for chemicals management had long felt a lack of high-level political support. Many had also felt frustrated by the fragmentation of responsibility for chemicals management across ministries, often with poor coordination and without adequate infrastructure, resources or authority. This was discussed at the Rio Earth Summit in 1992, and reflected in Chapter 19 of Agenda 21.

In 1994, the Intergovernmental Forum on Chemical Safety (IFCS) was founded to promote implementation of Chapter 19 and to provide a forum and a voice for government officials with responsibilities for chemicals management. It became a place where officials from highly industrial countries and from developing nations came to know one another – and provided them with opportunities to begin to formulate mutual visions and strategies to enhance global chemical safety. It also became a vehicle to promote higher political status for chemical safety concerns, and to encourage better integration and efficiency in national chemicals management regimes. Its efforts helped encourage and enable some developing country officials to advance efforts to strengthen their national capacity and infrastructure for chemical safety.

In 1996, at UNEP's invitation, IFCS formed an ad hoc working group to formulate and review recommendations for global action on POPs. This successfully built on past IFCS experience and promoted a balanced approach between northern and southern interests. It provided opportunities for



Amelita S. Angeta/UNEP/Topham

full involvement both by environmental NGOs and by chemical industry trade associations. The outcome was a consensus approach and framework for creating a legally binding POPs treaty reflecting both northern and southern interests, both chemical industry and civil society concerns.

The UNEP Governing Council adopted the IFCS recommendations in 1997, providing a robust, stable and successful framework for an intergovernmental negotiating process. All interests remained engaged in this: northern and southern; industry and civil society. All remained active in raising awareness about efforts to deal with POPs. The broad and deep support for the Stockholm Convention resulted.

Mobilizing resources

The Convention explicitly acknowledges that: 'sustainable economic and social development and eradication of poverty are the first and overriding priorities of the developing country Parties'. All its provisions take this into account. It does not create any expectation that the resources developing countries must use to meet its obligations will be diverted from their national priorities. Instead, it promises to mobilize new and additional financial resources to enable developing countries and countries in transition to meet obligations that would otherwise be beyond their capacity.

Yet, activities that countries undertake to meet Convention obligations also provide important domestic benefits. Full implementation of its provisions would protect domestic health and local environments as well as global ones. Implementing it effectively will eliminate persistent organic pollutants from the world's environment and advance chemical safety in all countries. History will record it as a key turning point in the evolution of sustainable development and in the recognition of chemical safety as a critical global and local concern ■

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MESSAGE TO THE SECOND GLOBAL ENVIRONMENT FACILITY ASSEMBLY

Xiang Huaicheng, Minister of Finance, China

I extend greetings to all those who come to Beijing for the the Second GEF Assembly – the government delegations of member countries, and representatives of international institutions and other organizations. It is our privilege and honour to play host, less than two years into the new millennium, to this great international event, which is charged with a significance too critical for anyone to overlook. The conference, like other gatherings, may last only a couple of days, but what comes out of it is expected to make a difference in the international endeavour for environmental protection – and its effectiveness will be felt for many years to come.

Environmental protection has long remained an important item on the agenda of both individual governments and the international community. But the urgency of protecting our globe – the sole habitat, as far as we know, available to mankind in the entire universe – takes on new relevance in the new millennium, as more and more economies embark on ambitious development programmes and simultaneously become more conscious of the importance of coming to terms with the environment.

What will the environment be like in the new century? What will the planet be like for our offspring? How can we ensure sustainable development by bringing growth and environmental protection into harmony? These questions cannot be evaded. We must get the highest possible grade on our answer sheet.

The United Nations Conference on Environment and Development in Rio de Janeiro ten years ago focused attention on this issue. Agenda 21 launched the first comprehensive and systematic programme of sustainable development in history – and set out the basic principles for international cooperation on environment and development in the 21st century. Ten years later, the World Summit on Sustainable Development was solemnly convened in Johannesburg. In the meantime, the concept of sustainable development has been broadly accepted by governments and people across the world – and, more importantly, has begun to be implemented globally with increased cooperation.

Much remains to be done. The GEF, as a financial mechanism for global environmental protection, will be an important player in further advances. Since its inception – and particularly since its restructuring in 1994 – the GEF has provided effective assistance, both financial and technical, to developing countries to participate in joint activities for global environmental protection. The GEF has recorded remarkable achievements, with the full support of its member countries, in enhancing the international community's awareness by helping nations to address environmental problems in the major areas with global implications – climate change, biodiversity loss, degradation of international waters, ozone depletion and land degradation. The GEF has lived up to the expectations of the international community and is expected to do more for many, many years.

The Chinese Government attaches great importance to environmental protection and development. It began according environmental protection its status, as one of the basic state policies, as early as the 1980s. It has formulated guidelines for integrating economic and social development, conservation of natural resources and environmental protection under the strategy of sustainable development. Meanwhile, China has been actively participating in international cooperation on environmental protection. Though China is still a low-income developing country, its Government is committed to contributing to the GEF and has decided to increase its contribution for the third replenishment of the GEF Trust Fund. We believe that the GEF will play a greater role in the future.

Xie Zongyi/New UNEP Photobank

I welcome all the delegates from 173 nations, international institutions and non-governmental organizations gathering in Beijing in the autumn, the best season of the year, so shortly after the Johannesburg Conference. I believe they will have a great opportunity to exchange ideas on a broad range of issues related to environmental protection, to review what has been done over the past years, to contemplate what remains to be done in the short to medium term, and to deliberate what can be done to strengthen our partnership.

We in China are looking forward to a fruitful Assembly and wish the conference every success ■